

WHAT IS CLAIMED IS:

- 1           1.       A method for managing retention of stored objects, comprising:  
2           receiving a modification request with respect to a stored object;  
3           determining whether a retention protection mechanism is set;  
4           processing a storage policy associated with the stored object to determine  
5 whether the stored object has expired according to the storage policy in response to  
6 determining that the retention protection mechanism is set; and  
7           allowing the modification request to proceed in response to determining that  
8 the stored object has expired.
  
- 1           2.       The method of claim 1, further comprising:  
2           allowing the modification request to proceed if the retention protection  
3 mechanism is not set; and  
4           blocking the modification request in response to determining that the retention  
5 protection mechanism is set and the stored object has not expired.
  
- 1           3.       The method of claim 1, wherein the storage policy specifies a retention  
2 period, wherein determining whether the stored object has expired comprises  
3 determining whether a difference between a current time and a retention period start  
4 exceeds the retention period.
  
- 1           4.       The method of claim 3, further comprising:  
2           determining whether the modification request is to increase the retention  
3 period specified for the storage policy in response to determining that the retention  
4 protection is set and the stored object has not expired;  
5           allowing the modification request to increase the retention period if the  
6 modification request is determined to increase the retention period; and  
7           blocking the modification request if the modification request is determined to  
8 not increase the retention period.

1           5.       The method of claim 3, wherein the storage policy may comprise an  
2 event based retention policy, wherein for the event based retention policy, the  
3 retention period start begins in response to receiving an event signal, and wherein the  
4 object having an event based retention policy does not expire until after the event  
5 signal is received and the difference between the current time and the retention period  
6 start exceeds the retention period.

1           6.       The method of claim 1, wherein the modification request comprises a  
2 request to delete the object, further comprising:  
3           determining whether a deletion hold is set for the stored object; and  
4           blocking the deletion request if the deletion hold is set regardless of whether  
5 the stored object has expired.

1           7.       The method of claim 6, further comprising:  
2           receiving indication that the deletion hold for one stored object is released,  
3 wherein deletion requests directed to the stored object after the deletion hold is  
4 released may proceed if the stored object has expired.

1           8.       A method for storing objects, comprising:  
2           receiving an object to store and a storage policy associated with the object,  
3 wherein the storage policy specifies a retention period ;  
4           generating object information for the received object indicating a storage  
5 policy including a retention period, wherein the stored object expires when a  
6 difference between a current time and a retention period start exceeds the retention  
7 period; and  
8           determining whether the storage policy comprises an event based retention  
9 policy, wherein for the event based retention policy, the retention period start  
10 commences in response to receiving an event signal, and wherein the object having  
11 an event based retention policy does not expire until after the event signal is received

12 and the difference between the current time and the retention period start exceeds the  
13 retention period; and  
14 setting status information to indicate that the event signal has not been  
15 received in response to determining that the storage policy comprises one event based  
16 retention policy.

1 9. The method of claim 8, further comprising:  
2 determining that the retention period start commences for a specified object in  
3 response to determining that storage policy for the specified object does not comprise  
4 one event based retention policy or in response to receiving the event signal for the  
5 specified object.

1 10. The method of claim 9, further comprising:  
2 generating expiration information indicating the retention period start as a  
3 current time and the retention period specified in the storage policy in response to  
4 determining that the retention period start commences.

1 11. The method of claim 10, further comprising:  
2 processing the expiration information for each stored object to determine  
3 whether the current time exceeds the retention period start plus the retention period;  
4 and  
5 deleting the object, object information, and expiration information for one  
6 object in response to determining that the current time exceeds the retention period  
7 start plus the retention period for the object.

1 12. The method of claim 8, wherein a minimum retention is associated  
2 with the event based retention policy, wherein the stored object is not expired if a  
3 time since the object was stored is less than the minimum retention period.

1           13.    The method of claim 8, wherein one stored object cannot be removed  
2 if the stored object has not expired according to the storage policy.

1           14.    The method of claim 8, wherein one event based retention policy has a  
2 retention period that expires upon receiving the event signal.

1           15.    A system for managing retention of stored objects, comprising:  
2           means for receiving a modification request with respect to a stored object;  
3           means for determining whether a retention protection mechanism is set;  
4           means for processing a storage policy associated with the stored object to  
5 determine whether the stored object has expired according to the storage policy in  
6 response to determining that the retention protection mechanism is set; and  
7           means for allowing the modification request to proceed in response to  
8 determining that the stored object has expired.

1           16.    The system of claim 15, further comprising:  
2           means for allowing the modification request to proceed if the retention  
3 protection mechanism is not set; and  
4           means for blocking the modification request in response to determining that  
5 the retention protection mechanism is set and the stored object has not expired.

1           17.    The system of claim 15, wherein the storage policy specifies a  
2 retention period, wherein the means for determining whether the stored object has  
3 expired determines whether a difference between a current time and a retention  
4 period start exceeds the retention period.

1           18.    The system of claim 17, further comprising:  
2           means for determining whether the modification request is to increase the  
3 retention period specified for the storage policy in response to determining that the  
4 retention protection is set and the stored object has not expired;  
5           means for allowing the modification request to increase the retention period if  
6 the modification request is determined to increase the retention period; and  
7           means for blocking the modification request if the modification request is  
8 determined to not increase the retention period.

1           19.    The system of claim 17, wherein the storage policy may comprise an  
2 event based retention policy, wherein for the event based retention policy, the  
3 retention period start begins in response to receiving an event signal, and wherein the  
4 object having an event based retention policy does not expire until after the event  
5 signal is received and the difference between the current time and the retention period  
6 start exceeds the retention period.

1           20.    The system of claim 15, wherein the modification request comprises a  
2 request to delete the object, further comprising:  
3           means for determining whether a deletion hold is set for the stored object; and  
4           means for blocking the deletion request if the deletion hold is set regardless of  
5 whether the stored object has expired.

1           21.    The system of claim 20, further comprising:  
2           means for receiving indication that the deletion hold for one stored object is  
3 released, wherein deletion requests directed to the stored object after the deletion hold  
4 is released may proceed if the stored object has expired.

1           22.    A system for storing objects, comprising:  
2           means for receiving an object to store and a storage policy associated with the  
3 object, wherein the storage policy specifies a retention period ;  
4           means for generating object information for the received object indicating a  
5 storage policy including a retention period, wherein the stored object expires when a  
6 difference between a current time and a retention period start exceeds the retention  
7 period; and  
8           means for determining whether the storage policy comprises an event based  
9 retention policy, wherein for the event based retention policy, the retention period  
10 start commences in response to receiving an event signal, and wherein the object  
11 having an event based retention policy does not expire until after the event signal is  
12 received and the difference between the current time and the retention period start  
13 exceeds the retention period; and  
14           means for setting status information to indicate that the event signal has not  
15 been received in response to determining that the storage policy comprises one event  
16 based retention policy.

1           23.    The system of claim 22, further comprising:  
2           means for determining that the retention period start commences for a  
3 specified object in response to determining that storage policy for the specified object  
4 does not comprise one event based retention policy or in response to receiving the  
5 event signal for the specified object.

1           24.    The system of claim 23, further comprising:  
2           means for generating expiration information indicating the retention period  
3 start as a current time and the retention period specified in the storage policy in  
4 response to determining that the retention period start commences.

1           25.    The system of claim 24, further comprising:  
2    means for processing the expiration information for each stored object to determine  
3    whether the current time exceeds the retention period start plus the retention period;  
4    and  
5           means for deleting the object, object information, and expiration information  
6    for one object in response to determining that the current time exceeds the retention  
7    period start plus the retention period for the object.

1           26.    The system of claim 22, wherein a minimum retention is associated  
2    with the event based retention policy, wherein the stored object is not expired if a  
3    time since the object was stored is less than the minimum retention period.

1           27.    The system of claim 22, wherein one stored object cannot be removed  
2    if the stored object has not expired according to the storage policy.

1           28.    The system of claim 22, wherein one event based retention policy has  
a retention period that expires upon receiving the event signal.

1           29.    An article of manufacture for managing retention of stored objects,  
2    wherein the article of manufacture causes operations to be performed, the operations  
3    comprising:  
4           receiving a modification request with respect to a stored object;  
5           determining whether a retention protection mechanism is set;  
6           processing a storage policy associated with the stored object to determine  
7    whether the stored object has expired according to the storage policy in response to  
8    determining that the retention protection mechanism is set; and  
9           allowing the modification request to proceed in response to determining that  
10   the stored object has expired.

1           30.    The article of manufacture of claim 29, wherein the operations further  
2 comprise:  
3           allowing the modification request to proceed if the retention protection  
4 mechanism is not set; and  
5           blocking the modification request in response to determining that the retention  
6 protection mechanism is set and the stored object has not expired.

1           31.    The article of manufacture of claim 29, wherein the storage policy  
2 specifies a retention period, wherein determining whether the stored object has  
3 expired comprises determining whether a difference between a current time and a  
4 retention period start exceeds the retention period.

1           32.    The article of manufacture of claim 31, wherein the operations further  
2 comprise:  
3           determining whether the modification request is to increase the retention  
4 period specified for the storage policy in response to determining that the retention  
5 protection is set and the stored object has not expired;  
6           allowing the modification request to increase the retention period if the  
7 modification request is determined to increase the retention period; and  
8           blocking the modification request if the modification request is determined to  
9 not increase the retention period.

1           33.    The article of manufacture of claim 31, wherein the storage policy  
2 may comprise an event based retention policy, wherein for the event based retention  
3 policy, the retention period start begins in response to receiving an event signal, and  
4 wherein the object having an event based retention policy does not expire until after  
5 the event signal is received and the difference between the current time and the  
6 retention period start exceeds the retention period.



1           34.    The article of manufacture of claim 29, wherein the modification  
2 request comprises a request to delete the object, further comprising:  
3           determining whether a deletion hold is set for the stored object; and  
4           blocking the deletion request if the deletion hold is set regardless of whether  
5 the stored object has expired.

1           35.    The article of manufacture of claim 34, wherein the operations further  
2 comprise:  
3           receiving indication that the deletion hold for one stored object is released,  
4 wherein deletion requests directed to the stored object after the deletion hold is  
5 released may proceed if the stored object has expired.

1           36.    An article of manufacture for storing objects, wherein the article of  
2 manufacture causes operations to be performed, the operations comprising:  
3           receiving an object to store and a storage policy associated with the object,  
4 wherein the storage policy specifies a retention period ;  
5           generating object information for the received object indicating a storage  
6 policy including a retention period, wherein the stored object expires when a  
7 difference between a current time and a retention period start exceeds the retention  
8 period; and  
9           determining whether the storage policy comprises an event based retention  
10 policy, wherein for the event based retention policy, the retention period start  
11 commences in response to receiving an event signal, and wherein the object having  
12 an event based retention policy does not expire until after the event signal is received  
13 and the difference between the current time and the retention period start exceeds the  
14 retention period; and  
15           setting status information to indicate that the event signal has not been  
16 received in response to determining that the storage policy comprises one event based  
17 retention policy.

1           37.    The article of manufacture of claim 36, wherein the operations further  
2 comprise:

3           determining that the retention period start commences for a specified object in  
4 response to determining that storage policy for the specified object does not comprise  
5 one event based retention policy or in response to receiving the event signal for the  
6 specified object.

1           38.    The article of manufacture of claim 37, wherein the operations further  
2 comprise:

3           generating expiration information indicating the retention period start as a  
4 current time and the retention period specified in the storage policy in response to  
5 determining that the retention period start commences.

1           39.    The article of manufacture of claim 38, wherein the operations further  
2 comprise:

3           processing the expiration information for each stored object to determine  
4 whether the current time exceeds the retention period start plus the retention period;  
5 and

6           deleting the object, object information, and expiration information for one  
7 object in response to determining that the current time exceeds the retention period  
8 start plus the retention period for the object.

1           40.    The article of manufacture of claim 36, wherein a minimum retention  
2 is associated with the event based retention policy, wherein the stored object is not  
3 expired if a time since the object was stored is less than the minimum retention  
4 period.

1           41.    The article of manufacture of claim 36, wherein one stored object  
2 cannot be removed if the stored object has not expired according to the storage  
3 policy.

1           42.    The article of manufacture of claim 36, wherein one event based  
2 retention policy has a retention period that expires upon receiving the event signal.